CLAIMS:

1. A method of video motion estimation for determining the dominant motion in a video image, said dominant motion being defined by a parametric transform which maps the movement of an image block from a first frame of the video to a second frame; the method comprising:

(a) selecting a plurality of blocks in the first frame, and matching said blocks with their respective block positions in the second frame;

(b) from the measured movements of the blocks between the first and second frames, calculating a plurality of estimates for a parameter of the transform;

(c) sorting the parameter estimates into an ordered list;

(d) determining a best global value for the parameter by examining the ordered list.

2. A method as claimed in claim 1 in which the best global value is determined by differentiating the ordered list to create an output list, and selecting a minimum value of the output list.

3. A method as claimed in claim 2 in which the determination of the best global value includes the step of selecting the longest run of values in the output list below a threshold value.

4. A method as claimed in claim 2 in which the determination of the best global value includes the step of selecting the longest run of values in the output list below a threshold value, and selecting a mid-point of the said longest run.

5. A method as claimed in claim 1 in which a parameter estimate is calculated for each selected block in the first frame.

6. A method as claimed in claim 1 in which a parameter estimate is calculated for each pair of selected blocks in the first frame.

7. A method as claimed in claim 1 in which the transform has a plurality of parameters, and in which two estimates for each of two parameters are calculated for each pair of selected blocks in the first frame.

8. A method as claimed in claim 1 in which the transform is a similarity transform.

9. A method as claimed in claim 8 in which an estimate of translation parameters in x and y are calculated for each selected block in the first frame, the best global estimates for the translation parameters in x and y being determined from respective ordered lists.

10. A method as claimed in claim 8 in which an estimate of zoom is calculated for each pair of selected blocks in the first frame, the best global zoom value being determined from a zoom values ordered list.

11. A method as claimed in claim 8 in which two estimates of zoom are calculated for each pair of selected blocks in the first frame, the two estimates being sorted into a single consolidated ordered list, and the best global zoom value being determined by examining the consolidated ordered list.

12. A method as claimed in claim 8 in which an estimate of zoom and rotation is calculated for each pair of selected blocks in the first frame, the best global zoom and rotation value being determined from respective zoom and rotation value ordered lists.

13. A method as claimed in claim 8 in which an estimate of $M \cos \theta$ and $M \sin \theta$ where M represents zoom and θ represents rotation is calculated for each pair of selected blocks in the first frame; and in which the best global values of $M \cos \theta$ and $M \sin \theta$ are determined from respective ordered lists.

14. A method as claimed in claim 10 or claim 11 in which the best global zoom value is fed back into the similarity transform to produce a plurality of estimates of translation parameters in x and y, the best global translation parameters in x and y being determined from respective ordered lists.

15. A method as claimed in claim 12 or claim 13 in which the said best global estimates are fed back into the similarity transform to produce a plurality of estimates of translation parameters in x and y, the best global translation parameters in x and y being determined from respective ordered lists.

16. A method as claimed in claim 1 in which the transform has a plurality of parameters, the method including determining a best global value for one of the parameters, then recomputing the matches and determining the best global value for another of the parameters on the basis of the re-computed matches.

17. A method as claimed in claim 1 in which the transform has a plurality of parameters, the method including determining the best global values for the said parameters, then re-computing the matches and recalculating the best global values on the basis of the re-computed matches.

18. A method as claimed in claim 8 including carrying out a preliminary calculation to determine whether the rotation is small and, if so, using a similarity transform which excludes consideration of rotation.

19. A method as claimed in claim 1 including selecting a plurality of pairs of blocks in the first frame.

20. A method as claimed in claim 19 in which the blocks are selected in a herringbone pattern.

21. A method as claimed in claim 1 in which the best global value is determined by differentiating the ordered list to create an output list, and selecting the best global value by examining the output list.

22. A method of video motion computation comprising determining the dominant motion in a video image as claimed in any one of the preceding claims, and compensating for the dominant motion between the first and second frames.

23. A codec including a motion estimator for estimating video motion according to any one of claims 1 to 21.

24. A codec including a motion compensator for providing motion compensation according to claim 22.

25. A computer program arranged to carry out a method as claimed in any one of claims 1 to 22.

26. A data carrier carrying a computer program as claimed in claim 24.

27. A method of video motion estimation for determining a plurality of dominant motions in a video image comprising determining the primary dominant motion according to the method of claim 1, removing from consideration image blocks which have, to a satisfactory degree, the primary dominant motion, and determining a subsidiary dominant motion in respect of the remaining blocks according to the method of claim 1.